Lesson Plan

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Subject: Energy **Grade:** 7th Grade

Objective: The students will understand and be able to differentiate the difference between the different kinds of energy and which ones are the most clean and most helpful to our environment.

Set: Ask the students how many types of energy they can think of and then have them think, pair, and share with others at their table.

Information/Model: For our information and model, we used something called a "Cool Cool Story".
The "Cool Cool Story" is read by a presenter while students are holding certain cards that go along with the story. The information and model should take about 20 minutes to go through. Explain each card as you go through with the students. Continue to check for understanding at each card because the more in depth you go with the cards, the more stages there are, and the more changes there are.

Check for Understanding: Ask the students what they are the most clean and the dirtiest types of energy. Ask the students what kind of energy they would use in their house if they had the choice.

Closure: Explain to the students the different stations that they are going to be going through for the next hour and ten minutes. Go through the order in which they should go through them.

Group Rotation Activities: Go through the five stations. (Solar power, nuclear power, wind power, electromagnetic power, and physical energy)

Whole Group Discussion: Ask 5 Review Questions and questions about types of energy that can be used at home.

Assessment: Have the students write a reflection on what they learned about energy and Plan of Action of using clean energy to use at home with their parents.

REFLECTION

Energy Day was such a success! Hannah Gangemi, Jordan Nulliner, and myself, Johnna Landry, packed up and headed to Kachina Elementary School along with our F.E.A advisor and assistants (other members of our chapter). We entered and were welcomed by the staff and teachers at the school. We set up our presentation in the library. Throughout the course of our afternoon at Kachina, we had many activities for the 7th graders to perform. As a result of our presentation and activities, the students grasped a solid understanding for energy[sources].

In our lesson, we had many high points where we felt the students had a strong hold on the energy lesson. Our first high point was that we had the "Cool Coal Story." It acted as our informational model in our lesson plan. The "Cool Coal Story" is a photo story on big laminated cards so that the students can see firsthand how energy has changed over time and how our world now uses it more efficiently. We could tell by the students' actions that they were very intrigued by where our energy comes from. In addition to the "Cool Coal Story," many of our activities were kinesthetic. The students enjoyed being able to work hands on and create different types of energy. Specifically, the junior high students created an origami model of a windmill. They worked to fold and secure it so that it would spin when blown, representing the energy that a windmill gives off to power other sources. We also had a physical energy station where students jumped rope. The 7th graders walked and jumped rope to see which exercise required the exertion of more energy. Additionally, we had light boards with LED and Incandescent bulbs. The students would crank to power the lights on and off. They saw how LED lights are easier to power and also brighter than regular incandescent light sources. Furthermore; we discussed how over time, LED lights are cheaper on the energy bill! To show solar energy, the students used mini solar panels that were connected to a small water fountain. When exposed to sunlight, the water would spew from the fountain. When covered, the water would remain at a standstill. The students covered the solar panels with their hand to represent cloud coverage. It was clear to them that the fountains stopped spewing water when covered, in relation to how an actual cloud prohibits solar panels from functioning. Lastly, to model nuclear energy, students cut fruit gushers. When the students cut the gushers in half, the juice in the middle shot out onto the surface. In the same way, nuclear energy expands quickly and impacts its surrounding area with the most powerful energy source! Aside from being hands on, all of our activities were student centered. We wanted the 7th graders to be responsible so it would result in positive feedback. Due to our student centered activity stations, the students were very motivated to produce the outcome at their stations.

Although the majority of our Energy Day flowed easily, there was still room for improvement. Our stations were six minutes each and we would have liked them to be ten. If our stations would have been ten minutes rather than six, the students would have been able to process their activities better with their group. Also, the agenda of each individual activity wouldn't have been so rushed with an additional four minutes. Along with time, we would have liked to incorporate better organization and fluidity in the transition from station to station. Without fluidity, the 7th graders were slightly off task going from station to station.

Overall, Energy Day was extremely successful! By our hands on activities that distributed regalia and a solid understanding for energy, the 7th graders at Kachina Elementary School gained tremendous knowledge as they unknowingly assisted with our competition.